1. An assembly of foam core panels comprising a pair of panels in joined relation wherein

each of said panels has

a foam core and

outer veneers disposed on opposite side faces of the core and coextensive thereof;

said panels having, respectively, vertical faces which are in abutting relation with each other; and

means for joining said panels with said vertical faces held in abutting relation, characterized in that the joining means comprise

slots formed, respectively, in said foam cores, lengthwise of said abutting, vertical faces,

each slot being undercut to form retaining surfaces facing away from the edge face in which it is formed, and

a joining member inserted into said slots,

said joining member having retaining surfaces respectively engaging the retaining surfaces of said slots,

thereby maintaining the panels in joined relation with said vertical faces maintained in abutting relation.

2. An assembly of foam core panels as in claim 1 wherein

each abutting vertical face comprises a side edge face of the core lying between the

veneers of the panel.

3. An assembly of foam core panels as in claim 1, wherein

each of said panels further comprises a top rail and a bottom rail, through which the slots also extend, and in which the joining member is disposed,

whereby the forces imposed on the foamed cores in maintaining the panels in joined relation are minimized.

4. An assembly of foam core panels as in claim 3 further characterized in that

the outer veneers disposed on opposite side faces of the core are also coextensive with the side faces of the top and bottom rails,

a veneer overlies a horizontal surface of one rail of one panel and

a veneer overlies a horizontal surface of the corresponding rail of the other panel,

thereby concealing one end of the slot from view.

5. An assembly of foam core panels as in claim 4 wherein

means are provided in at least one of said top rails for connecting the panels to an overhead support; and

said one rail and said corresponding rail are bottom rails.

6. An assembly of foam core panels as in claim 1 further characterized in that

said slots , at the vertical abutting faces of the panels, extend inwardly at right angles

thereto,

and the bottoms of the slots are undercut to form said slot retaining surfaces.

7. An assembly of foam core panels as in claim 6 wherein
the slots each a T- shaped cross section,
the joining member has
a planar, central web which is snugly received by outer portions of the T-shaped slots, and
thickened outer ends on which the retaining surfaces of the joining member are formed on planes parallel to the side edge faces of the panels.

8. An assembly of foam core panels as in claim 2 wherein
the panels are angularly disposed, one relative to the other,
the abutting side edges are mitered,
the outer end portions of the slots are aligned and
the joining member has a planar, central web which is snugly received by outer portions of the slots.

9. An assembly of foam core panels as in claim 2 wherein
the panels are angular disposed one relative to the other,
the abutting side edges are mitered,
the outer portions of the slots are angularly disposed to each other and the

the joining member has a central web which is angled to be received by outer portions of the slots.

10. An assembly of foam core panels as in claim 1 wherein

the lower end of the retaining surfaces on the joining member are beveled and provide a camming action in bringing the side edge faces into abutting relation, when the joining member is slid lengthwise into said slot in connecting the panels.

11. An assembly of foam core panels as in claim 1 wherein

the volume of material in the joining member is minimized by passageway means extending longitudinally thereof.

12. An assembly of foam care panels as in claim 1 wherein

the volume of material in the joining member is minimized by the retaining surfaces thereof being defined by longitudinally extending, thin walled portions.

13. An assembly of foam core panels as in claim 12 wherein

the joining member comprises

a longitudinally extending, relatively thin, solid, central section and

longitudinally extending, thin walled portions at the opposite sides of the central section,

the thin wall sections extending outwardly from the planes of the opposite

sides oft he the central section, to define the said retaining surfaces and then being angled, on opposite sides of the central section away from the central section and toward each other.

14. An assembly of foam core panels as in claim 1 wherein

the panels are angularly disposed one to the other,

the vertical, abutting face on one of said panels is a side edge face lying between the veneers of said one panel, and

the other vertical abutting face is intermediate the length of the other panel.

15. An assembly of foam core panels as in claim 1, further comprising

a second pair of slots, formed, respectively, lengthwise of said abutting, vertical faces,

each slot of the second pair being undercut to form retaining surfaces facing away from the edge, and

a second joining member inserted into said second pair of slots,

said second joining member having retaining surfaces respectively engaging the retaining surfaces of said second pair of slots.

16. An assembly of foam core panels as in claim 15, wherein

the second joining member has the same cross section as the first mentioned joining member.

17. An assembly of foam core panels as in claim 1, wherein

the retaining surfaces of the slot are defined by a solid resinous polymer material.

18. An assembly of foam core panels as in claim 6, wherein

the panels are angularly disposed, one relative to the other,

the abutting side edges are mitered,

the outer end portions of the slots are aligned and

The bottom portions of the slots are tapered toward each other from the widest portions of the retaining surfaces, thereby minimizing the material removed in forming said slots.

19. A method of forming retaining surface defining slots in panels that are to be connected by a joining member, which has retaining surfaces in engagement with the slot retaining surfaces,

said method comprising the steps of

forming a slot lengthwise of a vertical side edge of the a foam core panel, said slot being formed with an enlarged, undercut inner end,

forming a liner of plastic polymer material having plastic member, said liner being formed with an outline that corresponds to the outline of the slot, but is angularly divergent relative thereto,

coating the outer surface portions of the liner with an adhesive,

forcing side liner through the opening of said slot to the bottom thereof in a fashion that enables the plastic memory of the polymer material to bring the adhesive coated surfaces of the liner into engagement with the surfaces of the slot,

whereby a solid resinous polymer, wear resistant retaining surface is provided for the slot.

20. An assembly of foam core panels as in claim 1, which forms a valance, said assembly further comprising

means for mounting each of said pair of panels from overhead support means and

a plate leveler secured to the top surfaces of the joined panels and providing the primary means for horizontally aligning the panels thereby providing an accurate horizontal alignment, therebetween, irrespective of any horizontal misalignment in the means for mounting said panels from the overhead support means.

21. An assembly of foam core panels as in claim 20, wherein

each panel comprises a top rail which

is engaged by the means for mounting the panels from the overhead support means, and

to which the plate leveler is secured.

22. An assembly of foam core panels as in claim 21 wherein

at least one of said panels has a bottom rail,

the slot in said one panel extends through the top rail, downwardly through the

foam core and terminates at the top of the bottom rail,

whereby, when the assembly is dismantled, the one panel may remain mounted, and the other panel may be lowered to disengage it from said one panel, and the bottom rail resists the downward force on the joining member during such removal.

23. A method of joining a pair of foam core panels,

where each panel has a vertical edge face adapted to be engaged by the edge face of the other panel, and each of the vertical edge faces has a vertical slot formed in the respective edge faces thereof, and the bottoms of said slots are undercut to define retaining surfaces, and

said panels are to be interconnected by a joining member having a relatively thin central portion and opposed retaining surfaces at its opposite side for engagement with the undercut surfaces of said slots,

comprising the steps of

mounting one of said panels on an overhead support,

disposing a joining member in the undercut slot of said one panel, with a portion the joining member projecting outwardly from the vertical edge face thereof,

securing a plate leveler on the top of said one panel to thereby capture said joining member in the slot thereof, said plate leveler being mounted so as to project beyond the vertical edge face of said one plate,

positioning the other panel below the mounted panel with its vertical edge face aligned with the vertical edge face of the mounted panel,

displacing said other panel upwardly into engagement with the plate leveler to capture the outwardly projecting portion of the joining member in the vertical slot of said other panel,

securing the other panel to the overhead support, and

securing the other panel to the plate leveler.

24. A method of joining foam core panels as in claim 23 wherein

said panels each comprise a top rail, and

the step of securing the one panel to the overhead support comprises threading at least one screw through the overhead support and into the top rail of the one panel,

the step of securing the other panel to the overhead support comprises threading at least one screw through the overhead support and into the top rail of the other panel, and

the steps of securing the leveler plate the one panel and to the other panel comprise threading screws into said one plate and said other plate, respectively.

25. The method of joining foam core panels as in claim 23, wherein

the step of securing the plate leveler to the one panel is performed after the step of inserting the joining member into the slot of the one panel and before the step of mounting the one panel on the overhead support.

26. A method of joining foam core panels as in claim 23 wherein

said one panel further comprises a bottom rail and the slot in said panel extends

from the top of the panel and terminates at the bottom rail, and

comprising the further step of disassembling the panels so joined, by means of the following steps,

unsecuring said other panel from the overhead support,

unsecuring said other panel from the plate leveler, and

displacing said other panel downwardly to withdraw the joining member from the slot in said other slot, as downward frictional forces on the joining member are resisted by the bottom rail of the one panel.

26. An assembly of foam core panels as in claim 1, wherein

the panels have a substantial height,

the joining member is disposed in the lower end portions of said slots, and further comprising

an alignment strip disposed in said slots above said joining member, said alignment strip having a thickness approximating the width of the slots to thereby maintain the panels in aligned relation, and

a second joining member disposed in the upper end portions of said slots, said second joining member having retaining surfaces respectively engaging the retaining surfaces of said slots, thereby maintaining the upper end portions of the panels in joined relation.

27. An assembly of foam core panels as in claim 26, wherein

the upper surfaces of the panels are recessed and

the upper end portion of the upper joining member is dispose in said recess, and

the upper end portion of the upper joining member has a finger grip for facilitating its removal in disassembling said joined panels.

28. An assembly of foam core panels as in claim 26, wherein

each of said panels further comprises a top rail and a bottom rail for providing structural integrity to the panels.

29. A method of joining foam core panels,

where each panel has a vertical edge face adapted to be engaged by the edge face of the other panel, and each of the vertical edge faces has a vertical slot formed in the respective edge faces thereof, and at least the lower and upper end portions of the bottoms of said slots are undercut to define retaining surfaces,

comprising the steps of

inserting a joining member into the lower end portion of the slot in one of said panels, said joining member have a retaining surface engageable with the undercut surface of the portion of the slot into which it is inserted, said joining member also projecting outwardly from the vertical edge face of said one panel,

inserting an alignment strip into the slot in said one panel, said alignment strip being disposed above said joining member and having a portion of uniform thickness projecting beyond the edge face of said one panel,

positioning the other of said panels with its edge face in opposed, spaced relationship from the vertical edge face of said one panel, and with the lower end of the other panel above the upper end of the joining member projecting from the one panel,

displacing the other panel toward the one panel, to bring their vertical edge faces into engagement and simultaneously introduce the alignment strip into the vertical slot of the other panel,

after the edge faces are engaged, displacing the other panel downwardly to capture the joining member in the lower end portion of the vertical slot in the other panel, said joining member having second positioning surfaces which are thereby engaged with the undercut retaining surfaces of the slot in the other panel, and

inserting a second joining member in the upper end portions of the slots of the two panels, said second joining member having opposed retaining surfaces which are thereby engaged with the undercut portions of the slots.

30. A method for customizing foam core panels

that are to be connected by joining members having opposed retaining surfaces that are engageable with retaining surfaces provided by undercut slots formed longitudinally of abutting edge faces of joined panels,

comprising the steps of

marking a foam core panel to indicate the portion of the panel that must be removed to provide a desired panel length for a given installation,

removing the portion of the panel required to provide a desired panel length, and in

so doing providing a freshly cut edge face on the panel, and

forming an undercut slot longitudinally of said freshly cut edge face.

31. A method of customizing foam core panels as in claim 30, wherein

the removing step is performed through the use of a portable, electrically powered saw, and

the step of forming a slot is performed through the use of a portable, electrically powered router,

whereby the customizing can be done on the installation job site.

32. A method of customizing foam core panels as in claim 31, wherein

the step of forming said longitudinal slot comprises

a first pass with a straight router bit to form the outer portion of said slot, and

a second pass with a router bit with forms the undercut portion of said slot.